Department of Education

Certified Production Technician (CPT) Certification Guidelines

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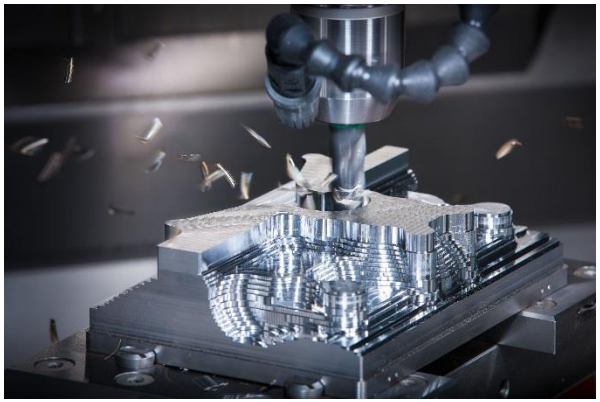
What is the Certified Production Technician (CPT) Certification?

Certified Production Technician Certification

- The CPT certification contains four modules that are divided into the following critical production functions: Safety, Quality Practices and Measurement, Manufacturing Processes and Production, and Maintenance Awareness.

- The Manufacturing Skill Standards Council (MSSC) gives an award for each module passed satisfactorily. However, students will only receive the **CPT Certificate** who satisfactorily complete **ALL four** modules and MSSC assessments.



- MSSC – Certifying the Industrial Athlete of the Future. (n.d.). Retrieved November 08, 2016, from http://www.msscusa.org/

Certified Production Technician Certification

- The CPT certification is based on industry-defined and federally-endorsed standards. It aims to assess the core skills and knowledge needed by the nation's front-line production workers.

- It offers both entry-level and skilled workers the opportunity to demonstrate that they have attained the skills needed for jobs of the 21st century.

MSSC – Certifying the Industrial Athlete of the Future. (n.d.). Retrieved November 08, 2016, from http://www.msscusa.org/

Alignment to Occupations

Job Alignment

The Certified Production Technician (CPT) certification aligns directly to **Engineering Technicians, Except Drafters 17-3029** occupations; more specifically, it aligns to the **Manufacturing Production Technician 17-3029.09** occupation.

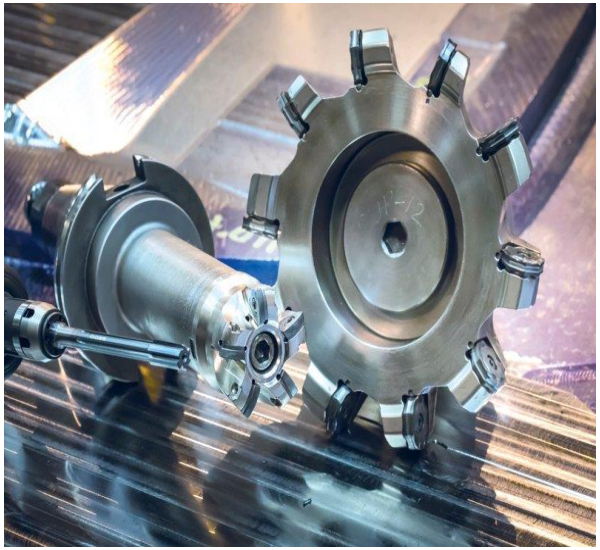
Manufacturing Production Technicians are able to set up, test, and adjust manufacturing machinery or equipment, using any combination of electrical, electronic, mechanical, hydraulic, pneumatic, or computer technologies.

Quick Search. (n.d.). Retrieved November 08, 2016, from http://www.onetonline.org/find/quick?s=17-3029

Job Duties

Job duties and tasks for Manufacturing Production Technician can include the following:

- Test products or subassemblies for functionality or quality.
- Troubleshoot problems with equipment, devices, or products.
- Build product subassemblies or final assemblies.
- Monitor and adjust production processes or equipment for quality and productivity.
- Prepare and assemble materials.
- Set up and operate production equipment in accordance with current manufacturing practices and standard operating procedures.
- Assist engineers in developing, building, or testing prototypes or new products, processes, or procedures.



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Employment Outlook

The table below shows the estimated Employment Wage Statistics for individuals in Tennessee employed as Engineering Technicians, Except Drafters in 2015.

Rate Type / Statistical Type	Entry Level	Median	Experienced
Annual wage or salary	* $30,862	$56,284	$67,294
Hourly wage	$14.85	$27.05	$32.35

Source: TN Dept of Labor & Workforce Dev, Div Emp Sec, R&S
The median wage is the estimated 50th percentile; 50 percent of workers in an occupation earn less than the median wage, and 50 percent earn more than the median wage. Entry level and Experienced wage rates represent the means of the lower 1/3 and upper 2/3 of the wage distribution, respectively. Data is from an annual survey.

***The Certified Production Technician certification is industry valued and recognized that leads to high quality employability that translates into job opportunities **above entry level positions.**

Sample of Current Job Opportunities in Tennessee for Engineering Technicians

- **Bridgestone Americas, Inc.**- La Vergne, TN
  - Production Control Analyst

- **Mirion Technologies (Canberra) Inc.** – Oak Ridge, TN
  - Manufacturing Technician

- **FedEx Services**- Collierville, TN
  - Electronics Technician

- **Amazon** - Murfreesboro, TN
  - Production Control Analyst

- **DENSO Manufacturing** – Maryville, TN
  - Engineering Technician

Appropriate Pathways for CPT

Importance of a Pathway

- Industry certifications must be tied to a student's program of study and serve either as a complement or capstone to a student's learning experience.
- Stand-alone certifications with no ties to a student's learning experience place the student in jeopardy of being unprepared not only to sit for the certification, but also not to be able to apply the content moving forward to a career path.

Advanced Manufacturing

Program of Study	Level 1	Level 2	Level 3	Level 4
Machining Technology	Principles of Manufacturing (5922)	Principles of Machining I (5929)	Principles of Machining II (5923) -or- **Dual Enrollment** Machining Technology (4060)	Manufacturing Practicum (5926) -or- **Dual Enrollment** Machining Technology (4060)
	Industry Certification: Machining Level I - Measurement, Materials, and Safety Certification (NIMS)	**Industry Certification:** Production Certification (CPT) Safety Module	**Industry Certification:** Production Certification (CPT) Quality Practices and Measurement Module	**Industry Certification:** Production Certification (CPT) Manufacturing Processes and Production Module and Maintenance Awareness Module

Machining Technology Pathway

- CPT certification will be delivered within the **Machining Technology POS only**.
  - Machining Technology POS is appropriately aligned to the content required to pass the CPT certification.
  - CPT is a general certification that concentrates on critical production processes as already outlined within the Machining Technology standards.

- CPT certification **should not** be offered as a stand-alone class.

Instruction

Modules

The CPT modules should be taught as a **supplement** to the Machining Technology standards already in place.

The CPT is divided up into four modules. Each module concentrates on specific critical production functions:

- Safety
- Quality Practices and Measurement
- Manufacturing Processes and Production
- Maintenance Awareness

While the Manufacturing Skill Standards Council (MSSC) gives an award for each module passed satisfactorily, these independent awards are not as highly valued by industry as the full CPT certification is. Industry agrees that Production Technicians will need to be competent in **all** four critical production function areas. Students will only receive the **CPT Certification** when they satisfactorily complete **ALL four** modules.

Appropriate Pacing

Pacing

The pacing should reflect the proper course and module alignment as outlined below in the matrix.

Advanced Manufacturing

Program of Study	Level 1	Level 2	Level 3	Level 4
Machining Technology	Principles of Manufacturing (5922)	Principles of Machining I (5929)	Principles of Machining II (5923) -or- **Dual Enrollment** Machining Technology (4060)	Manufacturing Practicum (5926) -or- **Dual Enrollment** Machining Technology (4060)
	Industry Certification: Machining Level I - Measurement, Materials, and Safety Certification (NIMS)	**Industry Certification:** Production Certification (CPT) Safety Module	**Industry Certification:** Production Certification (CPT) Quality Practices and Measurement Module	**Industry Certification:** Production Certification (CPT) Manufacturing Processes and Production Module and Maintenance Awareness Module

Assessments

Assessment Details

Exam Codes	Certified Production Technician (CPT)
Website	http://www.msscusa.org
Assessment	**Safety:** The Safety assessment consists of 83 multiple choice questions. Candidates are allowed 90 minutes to complete the assessment. **Quality Practices and Measurement:** The Quality assessment consists of 84 multiple choice questions. Candidates are allowed 90 minutes to complete the assessment. **Manufacturing Processes and Production:** The Production assessment consists of 83 multiple choice questions. Candidates are allowed 90 minutes to complete the assessment. **Maintenance Awareness:** The Maintenance assessment consists of 86 multiple choice questions. Candidates are allowed 90 minutes to complete the assessment. **Green Production:** The Green assessment consists of 94 multiple choice questions. Candidates are allowed 90 minutes to complete the assessment.
Passing Scores	• Safety is 76 percent (76%) • Quality Practices and Measurement is 75 percent (75%) • Manufacturing Processes and Production is 74 percent (74%) • Maintenance Awareness is 73 percent (73%) • Green production is 78 percent (78%) **OPTIONAL**

Fees and Registration

Fees

Registration fee/student:	$28.00 one-time fee
Modular assessments:	$22.00 each
Modular course supplements:	$70.00 each

Registration and Testing Centers

1. Find a local MSSC Assessment Center near you with MSSC's center locator feature. Only MSSC Partner Schools can administer certification exams to students.

2. Download the CPT candidate Handbook. There is information on how to register for certification located within this document.

Challenges and Solutions

Challenges

If a district faces specific challenges, for example: teacher endorsements or cost of the CPT certification, CTE directors are encouraged to use different partnership strategies to successfully implement a CPT certification program within their school

Solutions

Partnering with district nearby who is offering an Machining Technology program of study:

- This would allow for the possibility of sending students to another district in order to receive the proper foundation and needed skill set before taking the CPT certification.

Solutions

Partnering with a local TCAT or community college:

- CTE directors can supplement CPT modules within the Machining Technology program of study as well as offer a dual enrollment courses in Machining Technology to ensure students have access to content to prepare them to be successful in the CPT certification.
- The students can attend Machining Technology classes at the TCAT or the district could bring in the TCAT instructor to teach at the secondary school.

This offers the opportunity to attach the CPT certification to the aligned program of study and have access to an instructor who is properly endorsed.

For More Information

http://www.msscusa.org/certification/production-certification-cpt/

http://www.tn.gov/education/article/cte-cluster-advanced-manufacturing

http://www.tn.gov/assets/entities/education/attachments/cte_sic_advmanu_CPT.pdf

Department of Education

Districts and schools in Tennessee will exemplify excellence and equity such that all students are equipped with the knowledge and skills to successfully embark on their chosen path in life.

Excellence | Optimism | Judgment | Courage | Teamwork